Claims

We claim:

1. A method for configuring a node in a graphical program, the method comprising:

displaying a node in a graphical program, wherein the node is configurable to perform a plurality of operations depending upon user input specifying configuration information for the node;

displaying a graphical user interface (GUI) for specifying configuration information for the node, wherein the GUI comprises information useable in guiding a user in configuring the node to perform one or more operations from the plurality of operations;

receiving user input via the GUI specifying one or more desired operations for the node from the plurality of operations;

programmatically generating graphical source code for the node to implement the one or more desired operations, in response to the user input.

2. The method of claim 1,

wherein said programmatically generating the graphical source code for the node to implement the one or more desired operations does not include generating graphical source code corresponding to operations from the plurality of operations that are not among the one or more desired operations.

3. The method of claim 1,

wherein said programmatically generating the graphical source code for the node to implement the one or more desired operations does not include generating graphical source code not necessary to implement the one or more desired operations.

4. The method of claim 1,

wherein said programmatically generating the graphical source code for the node to implement the one or more desired operations comprises generating a minimal amount of graphical source code to implement the one or more desired operations.

5. The method of claim 1,

wherein said programmatically generating the graphical source code for the node comprises programmatically generating the graphical source code as a sub-program of the graphical program, wherein the node represents the sub-program.

6. The method of claim 1,

wherein said programmatically generating the graphical source code for the node comprises replacing the node in the graphical program with the programmatically generated graphical source code.

7. The method of claim 1, wherein the one or more desired operations is a first one or more desired operations the method further comprising:

receiving user input requesting to change configuration information for the node, after said programmatically generating the graphical source code for the node;

re-displaying the graphical user interface (GUI) in response to the user input requesting to change the configuration information of the node;

receiving user input via the GUI specifying a second one or more desired operations for the node;

programmatically replacing the previously generated graphical source code with new graphical source code for the node, wherein the new graphical source code implements the second one or more desired operations.

8. The method of claim 7,

wherein the first one or more desired operations includes a first operation;

wherein the second one or more desired operations does not include the first operation;

wherein the new graphical source code does not include graphical source code to implement the first operation.

9. The method of claim 1,

wherein no functionality is set for the node until after said programmatically generating graphical source code for the node.

10. The method of claim 1,

wherein default functionality is set for the node;

wherein said programmatically generating graphical source code for the node comprises replacing the default functionality with functionality implemented by the programmatically generated graphical source code.

11. The method of claim 1,

wherein no program instructions to be executed during execution of the graphical program are associated with the node until after said programmatically generating graphical source code for the node.

12. The method of claim 1, further comprising:

receiving user input requesting to specify configuration information for the node;

wherein said displaying the graphical user interface (GUI) is performed in response to the user input requesting to specify configuration information for the node.

13. The method of claim 1,

wherein the GUI for specifying configuration information for the node comprises one or more GUI input panels;

wherein the one or more GUI input panels include GUI input controls operable to receive user input for configuring functionality for the node.

14. The method of claim 13, further comprising:

determining the one or more desired operations for the node based on the user input received by the GUI input controls.

15. A method for configuring a node in a graphical program, the method comprising:

displaying a node in a graphical program, wherein the node is configurable to perform functionality depending upon user input specifying configuration information for the node;

displaying a graphical user interface (GUI) for specifying configuration information for the node, wherein the GUI is useable to specify functionality for the node;

receiving user input via the GUI specifying desired functionality for the node;

programmatically generating graphical source code for the node to implement the specified functionality, in response to the user input.

16. The method of claim 15,

wherein the GUI is useable to specify first functionality and second functionality for the node;

wherein the user input specifying the desired functionality specifies the first functionality but does not specify the second functionality;

wherein said programmatically generating the graphical source code for the node includes programmatically generating graphical source code to implement the first functionality;

wherein said programmatically generating the graphical source code for the node does not include programmatically generating graphical source code to implement the second functionality.

17. A memory medium for configuring a node in a graphical program, the memory medium comprising program instructions executable to:

display a node in a graphical program, wherein the node is configurable to perform a plurality of operations depending upon user input specifying configuration information for the node;

display a graphical user interface (GUI) for specifying configuration information for the node, wherein the GUI comprises information useable in guiding a user in configuring the node to perform one or more operations from the plurality of operations;

receive user input via the GUI specifying one or more desired operations for the node from the plurality of operations;

programmatically generate graphical source code for the node to implement the one or more desired operations, in response to the user input.

18. The memory medium of claim 17,

wherein said programmatically generating the graphical source code for the node to implement the one or more desired operations does not include generating graphical source code corresponding to operations from the plurality of operations that are not among the one or more desired operations.

19. The memory medium of claim 17,

wherein said programmatically generating the graphical source code for the node to implement the one or more desired operations does not include generating graphical source code not necessary to implement the one or more desired operations.

20. The memory medium of claim 17,

wherein said programmatically generating the graphical source code for the node to implement the one or more desired operations comprises generating a minimal amount of graphical source code to implement the one or more desired operations.

21. The memory medium of claim 17,

wherein said programmatically generating the graphical source code for the node comprises programmatically generating the graphical source code as a sub-program of the graphical program, wherein the node represents the sub-program.

22. The memory medium of claim 17,

wherein said programmatically generating the graphical source code for the node comprises replacing the node in the graphical program with the programmatically generated graphical source code.

23. The memory medium of claim 17,

wherein no functionality is set for the node until after said programmatically generating graphical source code for the node.

24. The memory medium of claim 17,

wherein default functionality is set for the node;

wherein said programmatically generating graphical source code for the node comprises replacing the default functionality with functionality implemented by the programmatically generated graphical source code.

25. The memory medium of claim 17,

wherein no program instructions to be executed during execution of the graphical program are associated with the node until after said programmatically generating graphical source code for the node.

26. A memory medium for configuring a node in a graphical program, the memory medium comprising program instructions executable to:

display a node in a graphical program, wherein the node is configurable to perform functionality depending upon user input specifying configuration information for the node;

display a graphical user interface (GUI) for specifying configuration information for the node, wherein the GUI is useable to specify functionality for the node;

receive user input via the GUI specifying desired functionality for the node;

programmatically generate graphical source code for the node to implement the specified functionality, in response to the user input.

27. The memory medium of claim 26,

wherein the GUI is useable to specify first functionality and second functionality for the node;

wherein the user input specifying the desired functionality specifies the first functionality but does not specify the second functionality;

wherein said programmatically generating the graphical source code for the node includes programmatically generating graphical source code to implement the first functionality;

wherein said programmatically generating the graphical source code for the node does not include programmatically generating graphical source code to implement the second functionality.